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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/680,177

10/05/2000

Mitsuaki Oshima

2000-1391

6208

7590

09/20/2005

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EXAMINER

HA, DAC V

ART UNIT

PAPER NUMBER

2634

DATE MAILED: 09/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

OK

<b>Office Action Summary</b>	<b>Application No.</b> 09/680,177	<b>Applicant(s)</b> OSHIMA ET AL.	
	<b>Examiner</b> Dac V. Ha	<b>Art Unit</b> 2634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 January 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 42-47 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 42-47 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>4/11/05, 2/23/05</u> | 6) <input checked="" type="checkbox"/> Other: <u>IDS: 1/31/05</u>                       |

## DETAILED ACTION

### *Double Patenting*

1. Claims 42-47 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 24-35 of copending Application No. 09/677,421 in view of Calderbank et al. (US 5,115,453) (hereafter Calderbank) and Divsalar et al. (US 5,023,889) (hereafter Divsalar).

Claims 24-35 of the copending application 09/677,421 disclose all claimed subject matter in claims 42-47 except the use of "Reed-Solomon encoder" and "PSK or QAM modulation". Calderbank discloses trellis coding "second data stream" and use of "PSK or QAM modulation" in Fig. 1; col. 10, line 61 to col. 11, line 5. Further, the use of "Reed-Solomon encoder" is also known in the art of coding (Divsalar, col. 3, line 2). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate the use of, i.e. QAM modulation and Reed-Solomon encoder into the aforementioned copending Application as optional to improve the data rate as well as the error correction capability of the system.

This is a provisional obviousness-type double patenting rejection.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 42-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Farias et al. (US 4,891,806) (hereafter Farias) in view of Calderbank and Divsalar.

Farias et al discloses a transmission system comprising a first ECC (col. 10, lines 5-58), a first ECC decoder (col. 10, lines 55-58), a second ECC (Fig. 2, block 118), a second ECC decoder (Fig. 10, 195) for encoding/decoding two streams of data wherein the first data stream has information for demodulating the second data stream (Fig. 10, 206, 190). Calderbank uses "PSK or QAM modulation" in Fig. 1; col. 10, line 61 to col. 11, line 5. Further, the use of "Reed-Solomon encoder" is also known in the art of coding (Divsalar, col. 3, line 2). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate the use of, i.e. QAM modulation and Reed-Solomon encoder into Farias, as an option, to take advantage of the improving the data rate as well as the error correction capability of the system.

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dac V. Ha whose telephone number is 571-272-3040. The examiner can normally be reached on 5/4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 571-272-3056. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Dac V. Ha', with a long horizontal flourish extending to the right.

Dac V. Ha  
Primary Examiner  
Art Unit 2634